

REMARKS

Claims 1-14, 19-24, 35 and 36 are in this application and are presented for consideration. By this amendment, Applicant has amended claims 1-14 and 19-24. Withdrawn claims 15-18 and 25-34 have been canceled subject to Applicant's right to file a divisional application to cover the features of the withdrawn claims. New independent claims 35 and 36 have been added.

Claims 20 and 23 have been rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which Applicant regards as the invention.

Applicant has amended the claims paying close attention to the Examiner's remarks. Applicant wishes to thank the Examiner for the careful review of the claims. It is Applicant's position that the claims as now presented are clear and fully conform with the requirements of the statute. Accordingly, Applicant respectfully requests that the Examiner remove the indefiniteness rejection in light of the changes to the claims.

Claims 1-5, 19, 23 and 24 have been rejected under 35 U.S.C. 103(a) as being unpatentable over Giacometti (U.S. 5,709,829) in view of any one of Muth (WO 03/004229 A1 referencing U.S. 2004/0209041 as an English equivalent), Schulz et al. (U.S. 5,913,997) or Cruise et al. (U.S. 5,874,159).

The references as a whole fail to teach or suggest the combination of preheating a web material prior to the web material contacting a first roller or a second roller. Preheating the web material prior to contacting one or more rollers advantageously reduces the time required

by the web material to be in contact with the perforation roller so that correct and accurate perforation of all of the web material is obtained. This advantageously allows feeding of the web material at a high speed, which significantly reduces the time it takes to perforate the web material. The heating of the web material prior to contact with one or more rollers allows the web material to be more easily perforated. This significantly reduces the mechanical stress on the web material. As the web material reaches the nip preheated, the pressure and percentage of slippage between the rollers is drastically reduced. The reduction in pressure reduces the compression stresses and bending stresses to which the tips or protuberances provided on the roller are subjected. This advantageously allows the protuberances to be produced of a greater height, which allows the thickness of the finished product to be increased. This is of particular importance for products such as sanitary towels that require a considerably thick top sheet. The prior art as a whole fails to disclose such features and such accurate perforation advantages.

Giacometti fails to teach and fails to suggest the combination of preheating a web material prior to the web material contacting a first roller or a second roller. Although Giacometti discloses two rollers that define a nip through which a web material is fed wherein one of the rollers is provided with protuberances for performing perforations, Giacometti does not teach or suggest that the web material is preheated prior to contacting the rollers. Giacometti merely discloses heating one or more rollers at the same time of the feeding of the web material in the nip defined between the two rollers (see Column 2, lines 43-47). The web material of Giacometti is not preheated prior to contacting at least one of the rollers as claimed.

This is a significant departure from the present invention. Heating the roller as disclosed in Giacometti disadvantageously increases the stay time of the web material, i.e. the amount of time that the web material is in contact with the rollers. This severely decreases the rate of production since a lesser amount of material is allowed to pass through the nip due to the high stay time of the web material. Compared with Giacometti, the web material is preheated prior to engaging one or more of the rollers. This allows the web material of the present invention to pass more quickly through the nip since the preheated web material requires less time to be perforated. As such, the present invention takes a different approach than that of the prior art. Accordingly, the prior art as a whole fails to establish a prima facie case of obviousness since the prior art as a whole does not teach or suggest each feature of the claimed combination.

Muth fails to provide any teaching or suggestion for the combination of preheating a web material prior to the web material contacting a first roller or a second roller. Muth merely discloses two rollers that define a nip through which a nonwoven fabric is fed with one of the rollers provided with protuberances for perforating the fabric. Similar to Giacometti, the upper roller is heated such that the fabric is heated over the roller before entering the nip (see end of paragraph [0012]). This is not preheating the web material prior to contact with one or more of a first roller and a second roller as claimed. The Office Action takes the position that Muth teaches that preheating the web material achieves especially stable perforation. Applicant respectfully disagrees with this interpretation of Muth. Muth clearly discloses at the end of paragraph [0030] that the looping of the material achieves an especially stable perforation. This means that the tension of the material, and not the heating of the material by the roller,

provides for stable perforation. Furthermore, Muth discloses at the end of paragraph [0040] that the heat supply to the perforated material stabilizes the fibers of the material that are displaced. As such, Muth clearly discloses that this kind of result is substantially equivalent to a heated compression of a web of fibers through a calender. The heating of the roller of Muth disadvantageously does not allow for a fast and accurate perforation of the material as featured in the present invention. As such, the prior art as a whole takes a completely different approach and fails to establish a prima facie case of obviousness as the prior art as a whole does not teach or suggest each and every feature of the claimed combination.

Schulz et al. and Cruise et al. do not teach or suggest the combination of preheating a web material prior to the web material contacting a first roller or a second roller. Schulz et al. and Cruise et al. only disclose heating a web material prior to a bonding treatment. The references as a whole fail to provide any suggestion of using the teachings of Schulz et al. and Cruise et al. to separate the heating station from a bonding station and combine it with the devices of Muth and Giacometti since the references do not direct a person of ordinary skill in the art toward the benefits of preheating the web material in connection with perforation treatments. Schulz et al. and Cruise et al. are only concerned with heating a web material to bond the web material together, but the references as a whole are not concerned with preheating the web material prior to perforation so that the web material is in contact for a short period of time during perforation as claimed. Schulz et al. and Cruise et al. fail to provide any teaching or suggestion of heating a web material prior to crushing the material to provide perforations in the web material as claimed. As such, the prior art as a whole takes a

completely different approach and fails to establish a prima facie case of obviousness as the prior art as a whole does not teach or suggest each and every feature of the claimed combination. Accordingly, Applicant respectfully requests that the Examiner favorably consider claim 1 as now presented and all claims that depend thereon.

Claims 6 and 10-14 have been rejected under 35 U.S.C. 103(a) as being unpatentable over Giacometti in view of any one of Muth, Schulz et al. or Cruise et al., and further in view of Dettmer (WO 99/25911 referencing U.S. 6,395,211 as an English-language equivalent).

As previously discussed above, Giacometti and Muth only disclose heating a roller to heat a web material while Schulz et al. and Cruise et al. disclose heating a web material prior to bonding the web material together, but the references as a whole do not teach or suggest the combination of preheating a web material prior to the web material contacting a first roller or a second roller. Dettmer also does not provide any teaching or suggestion for preheating a web material prior to the web material contacting one or more rollers as claimed. Similar to Giacometti and Muth, Dettmer only discloses two rollers that define a nip through which a web material is fed with the embossing roller being heated. However, the web material fails to be heated prior to contact with the embossing roller as claimed. As such, the prior art as a whole takes a completely different approach and fails to teach or suggest each and every feature of the claimed combination. Accordingly, all claims define over the prior art as a whole.

Claims 7-9 and 20-22 have been rejected under 35 U.S.C. 103(a) as being unpatentable over Giacometti in view of any one of Muth, Schulz et al. or Cruise et al., and further in view of Dettmer, and further in view of Pike (U.S. 5,382,400).

As previously discussed above, Giacometti, Muth, Schulz et al., Cruise et al. and Dettmer do not teach or suggest the combination of preheating a web material prior to the web material contacting a first roller or a second roller. Pike also fails to provide any teaching or suggestion for heating a web material prior to the web material engaging at least one roller. Pike discloses a line for making a nonwoven multicomponent fabric wherein the line includes a compression roller 32, a subsequent apparatus formed by thermal point bonding rollers or through air bonders and a winding roll for taking up the finished fabric (see Column 8, lines 22-34). Although Pike discloses air bonders and thermal bonding rollers, the bonders and rollers are only used to thermally bond fabric. Pike provides no teaching or suggestion of heating a web material that is then crushed with a perforation roller to form a perforated product as claimed. Pike merely directs a person of ordinary skill in the art toward a thermal bonding process, but does not direct a person of ordinary skill in the art toward the benefits of preheating a web material in connection with perforation of the web material as claimed. As such, the prior art as a whole does not establish a prima facie case of obviousness as the prior art as a whole does not teach or suggest important features of the claimed combination. Accordingly, all claims define over the prior art as a whole.

Applicant has added new independent claims 35 and 36. New independent claim 35 highlights that at least one roller is heated. The prior art as a whole fails to teach or suggest the combination of a double independent heating that can be used to provide a control of the temperature of the web during perforation. New independent claim 36 has been added to clarify that the preheating is done in a station in which the web material is also bonded. This

advantageously allows energy to be saved since the bonding action supplies heat to the nonwoven for the preheating. Applicant respectfully requests that the Examiner favorably consider claims 35 and 36 as presented.

Favorable consideration on the merits is requested.

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